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A cooperative effort to formulate a policy statement is reported which would give direction to local school systems in identifying the pupils of high ability, in planning worthy activities, and in administering educational programs. High ability was defined to encompass all kinds of potential ability, both general and specific, which rise above the average. The concept of highly able traits includes factors such as creativity and leadership in addition to intellectual superiority as measured by mental maturity tests.

This report is divided into six sections. The first attempts to show that high ability has a unique role to fulfill in a democracy and that education is essential in seeing that this role is fulfilled. The second section seeks to define the nature of high ability as a broad concept relating to unusual capacity for acquiring knowledge, insight, and wisdom and for translating this learning into outstanding achievement in any of several lines of endeavor. Motivation is an intrinsic factor in this concept of high ability. The third section presents basic considerations relating to the perception of high ability pupils. The development of high ability, first by pointing out its relationship to the development of ability in general and then by highlighting the features which make it unique, is discussed in the fourth section. The fifth section examines the responsibility of the public schools of Maryland for the highly able, and guidelines for implementing these policies are contained in the final section.

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Educating the Highly Able

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Foreword

One of the major responsibilities of the State Department of Education is the formulation of policy to chart the general direction of programs of education in the public schools. Since experience has shown that this is best accomplished in cooperation with local school systems, staff members from both State and local levels have from time to time been asked to study particular questions and to develop guidelines for use in the Maryland public school system. This bulletin is the result of such a cooperative effort.

The education of highly able pupils is an important aspect of the total educational structure in Maryland. The growing interest of the layman in this subject and the continued concern of the teacher for these pupils prompted me to appoint a Committee to study the characteristics and needs of highly able pupils and to formulate policy statements which will give direction to local school systems in identifying these pupils, in planning worthy activities, and in administering educational programs for them.

The Committee, composed of ten members under the chairmanship of Dr. Geneva Ely Flickinger, began its study in January, 1959, with no time limit imposed but with the directive to examine the subject thoroughly. This, I think, has been done. The work of the Committee was marked by serious study and careful thought, and the report was reviewed by Dr. Robert J. Havighurst, University of Chicago, and Dr. Virgil S. Ward, University of Virginia, leading authorities on the education of the highly able. It should become a valuable instrument in the development and evaluation of educational programs for the highly able. It was designed and written for this purpose and should be used widely in each local school system.

Thos. G. Pullen, Jr.

State Superintendent of Schools

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Introduction

The current concern of public schools over the education of the highly able marks an intensification of a long-standing determination to provide the best possible education for these pupils. Maryland, which has had such concern and determination from the beginning, is now strengthening its position by drawing attention to this segment of its school population. Within recent years, several local school systems have engaged in studies resulting in new approaches to the education of the highly able. Since the Maryland State Department of Education is committed to the goal of optimum development of all pupils, it is vitally interested in improving the education of the highly able. With the full support of the State Board of Education, Dr. Thomas G. Pullen, Jr., State Superintendent of Schools, appointed a Committee in January, 1959, to study the entire question and to formulate a policy statement.

The Committee, in pursuance of this charge, formulated questions of major concern dealing chiefly with the nature of high ability and the methods of discovering and developing it. Then began an intensive search for answers which would be sound from both a philosophical and a psychological standpoint. Members of the Committee brought to the general discussions the understandings they had gained from individual reading, study, and experience. In addition, ten consultants were employed to discuss one or more of the questions.

In the course of this activity, the Committee came to the conclusion that the term "giftedness" is often too narrowly interpreted as that ability which rates high on tests of mental maturity, whereas it actually includes such other traits as creativity and leadership. The Committee recognized also that the terms "academic talent" and "intellectual superiority" are used to denote particular aspects of ability. Because of these considerations, the Committee adopted the more general term of "high ability." As used in this report, high ability encompasses all kinds of potential ability, both general and specific, which rise well above the average. Thus, the report presents a consideration of the education of that pupil who holds in some or all aspects of his person the power to achieve at a high level.

The report is divided into six sections. The first attempts to show that high ability has a unique role to fulfill in a democracy and that education is essential in seeing that this role is fulfilled. In this fulfillment, as in all other activities, individual freedom is a primary value. It is, however, a mixed blessing since, when used rightly, it can spur an individual to greater exertion and greater activity and, when misused, it can produce indifference and dissipation. Another primary value is the general welfare

which at times may conflict with individual freedom. The only hope of safeguarding both individual freedom and the general welfare and of resolving conflicts between them is the full and constructive development of all the abilities of all the citizens, beginning at an early age and continuing throughout life. Since high ability is the source of new ideas, fresh insights, and inspiring leadership, the education of highly able individuals becomes one of the important responsibilities of the schools.

The second section defines high ability as a broad concept relating to unusual capacity for acquiring knowledge, insight, and wisdom and for translating this learning into outstanding achievement in any of several lines of endeavor. High ability includes such other concepts as talent, intellectual superiority, and giftedness. It has several dimensions which are closely related and which may or may not appear in full form in a single individual. No matter how abundant or how sparse it is, however, high ability depends on the intangibles of motivation for development and expression. Motivation is, therefore, an intrinsic factor in educating for outstanding performance.

The third section presents basic considerations relating to the perception of high ability in pupils. Since these considerations involve recognizing, analyzing, and evaluating the ability of a pupil from his early years through at least the period of his formal education, they concern parents as well as teachers. The considerations on identification of highly able pupils in schools cover such points as the importance of having a definite plan, the need of continuity, the value of various methods of identification, and the role of research. Objective tests are placed in proper perspective in relation to other means of identifying levels of ability; personal observations and judgments are recognized as valid means, provided the observers are qualified to interpret what they observe.

The fourth section discusses the development of high ability, first by pointing out its relationship to the development of ability in general and then by highlighting the features which make it unique. This section deals chiefly with the application of learning principles to the highly able and with the role of the teacher and the administrator in facilitating such application. Consideration is given to the primary role of self-expression, the relation of the learning situation to the characteristics of the learner, and emphasis on such basic activities as mastering communication skills, experiencing depth and breadth in learning, increasing the power of self-direction, and developing a positive self-concept. Among the facilitating factors are the identification of able pupils, the development of teachers,

and the provision of educational programs which stimulate growth. The section gives consideration to the questions of enrichment, acceleration, and grouping; the importance of the school library and other pupil services; the role of motivation in the learning process; and the necessity for evaluation.

The fifth section examines the responsibility of the public schools of Maryland for the education of the highly able. This responsibility stems from a logical analysis of basic educational beliefs. Since these beliefs place value on each individual pupil, it is incumbent on the schools, in planning and developing their educational programs, to recognize and respect levels of ability. The responsibilities of the public schools generally and of the State Department specifically are indicated, in each case, as an eight-point program, which, if put into practice, should meet not only the professional responsibility as indicated in the psychology of human growth and development but also the legal responsibility which is stated in the Declaration of Rights in the Maryland Constitution and the moral responsibility which is rooted in the democratic principles of individual worth and general welfare. Providing adequately for the highly able is consistent with these democratic and educational principles.

The final section contains guidelines for action to implement these policies. School systems should have specific plans and programs with responsibility clearly indicated in the areas of identification, organization, instruction, supervision, in-service education, and research. The section indicates the kinds of decisions which must be made if the education of the highly able is to be effective at the local level.

Since this is a basic policy statement, the Committee decided that a bibliography was not appropriate. Credit is hereby given to the numerous books, pamphlets, and magazine articles which have been current during the period of study and to such basic books as those by Lewis M. Terman and Leta B. Hollingworth which appeared several decades ago. All these and many more have entered into the thinking of the members of the Committee and have helped to shape the ideas which are presented in this report. Likewise, credit is given to the local school systems which have engaged in study and experimentation on the education of the highly able and have developed programs for them. The Committee is especially indebted to the school systems to which its members belong, since it drew heavily on their ideas and their experiences. Thus, the report is an amalgam of many ideas crystallized into the present form in the course of many hours of discussion. It represents the best thinking of the Committee at this time.

EDUCATING THE HIGHLY ABLE

A POLICY STATEMENT

1
HIGH ABILITY IN A DEMOCRACY

Democracy in the United States is based on certain concepts in the Declaration of Independence which state that " . . . all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness." These concepts, which recognize the worth and dignity of the individual, undergird all institutional and personal living in this country. In spite of the universal acceptance of this Declaration, however, experience indicates that the individual may be degraded, that his liberty may be lost, that each generation must discover for itself the worth of democracy, and that education alone can safeguard that democracy. The Founding Fathers themselves recognized the possibility of this danger and the necessity of this safeguard when they added to their statement these words: " . . . to secure these rights, Governments are instituted among Men . . . ." At a later time also, Thomas Jefferson said that, "our liberty can never be safe but in the hands of the people themselves, and that too of the people with a certain degree of instruction."

The "degree of instruction" has steadily increased over the years. Sensitive to the demands of the times, the public schools have enlarged their scope of operations from the "little red schoolhouse" with its "three R's" for a few pupils to the modern school building with its comprehensive curriculum for "all the children of all the people." The educational program has been broadened and deepened and generally changed to provide for the mental development of each pupil in accordance with his individual ability and in accordance with the general welfare.

All pupils have benefited from an increasing awareness, on the part of the public schools, that individuals differ with respect to native ability and therefore capacity to learn. Attention has been focused not only on subject matter, as it was in the earliest years, but also on the pupil. From time to time, both subject matter and pupil are re-examined with consequent changes in program. Among the changes of the last twenty years has been an increased concern for pupils of high ability—in both academic and nonacademic areas. General social conditions and particular world crises have produced this concern. Educators and laymen alike realize that the coming generations must achieve new and larger understanding in all fields of human endeavor. The advances in science and the develop-

ment of conflicting idealogies are demanding profound insight not only in the field of pure research but just as importantly in the field of human affairs, whether these affairs concern technology, peaceful co-existence, or personal living in general, and it is to those of high ability that the country is looking for this insight.

Several considerations follow:

Equality of educational opportunity requires differentiation of program. For some time public schools have realized that they must provide programs of learning so designed as to engage each pupil in the learning process to the extent that he is capable and, further, to carry him as far in the pursuit of learning as his level of maturity permits. In the case of the highly able, appropriate emphasis must be placed increasingly on developing their mental processes in order that each may understand the nature of his ability, assume responsibility for its development, and foster the inner drive necessary to achieve.

All rights entail responsibilities. The children and youth of the United States must learn that their right to an education carries with it the responsibility to use the education constructively not only for themselves personally but also for others. The concept of the relationship between a right and a responsibility is a cardinal principle of democracy, and an understanding of it must be engendered in the early years. The adult who has not learned this lesson will not know true liberty, and he will not gain that power of knowledge tempered by wisdom which alone can make him a positive force in a democracy. The highly able function at their best only when they understand and accept this principle.

No recognized method of gaining knowledge and insight may be overlooked in the process of education if each generation is to be fully capable of discovering the truth for itself. While some pupils may be limited in their abilities in this regard, the highly able should be encouraged to use every available avenue to truth since they, more than others, can probe into the unknown and thus extend man's knowledge and enlarge his understandings. They must be taught the power of thought, the worth of human values, the inevitability of change, and the preservation of principle.

These considerations are important for all pupils, but they have special significance for the highly able. The development of high ability is always a great endeavor. At this time, it is one of the greatest endeavors facing mankind, for the world is undergoing rapid change resulting in confusion

for adults and consequent difficulty for the young. The interpretation of our heritage and the enlargement of our understandings are becoming more and more difficult. For many years now, century-old values have been undergoing change. The disparity has widened between the realms of the material, the scientific, the logical, on the one hand, and the intuitive, the artistic, the humane, on the other hand. This is reflected in the current emphasis on physical sciences rather than on humanities, an emphasis which may well produce an imbalance dangerous to the pursuit of truth. The humanities, for the most part, represent concern for the spirit or the essence of man from which spring insight and value, creativity and wisdom. Public education has a responsibility to lead the highly able to these sources as well as to the more familiar rational and empirical sources which use reason and logic, experience and experimentation. The liberated mind is the mind that is at home with the intuitive and the rational, that delights in using all sources of knowledge, and that extends itself into the unknown as it pursues both old and new ideas.

The extent to which the young apply themselves to learning of this type depends, at least partially, on the extent to which society understands and values it. High ability in any endeavor thrives in proportion to the position accorded it in society at large, in the community, and in the school. An attitude of appreciation for excellence in scholarship must be developed on the community level before it can be an important goal in the life of every able pupil. Commitment to excellence in learning must become an essential part of life in the United States. Likewise, individual communities must mobilize their resources to motivate and sustain a high quality of learning among all their citizens, since emphasis on such learning will be reflected in the aspirations of children and youth.

Whether or not appreciation of excellence exists in the wider community, schools must give appropriate recognition to significant learning in every type of endeavor. The weight attached to such recognition, however, will depend on the value which society at large assigns to it. The task of elevating learning, therefore, belongs to the entire community.

2
THE NATURE OF HIGH ABILITY

High ability involves the total individual: his intellect, his will, his feeling, and his body. The amount and quality of development and coordination displayed by a highly able person vary from one activity to another, but each of the four facets is involved to some extent and the higher the level of ability, the greater the need for more extensive and intensive development and coordination.

High ability, far from being narrowly restricted to facility in learning and in reproducing symbols and ideas, as people have often thought in the past, manifests itself in several additional ways: ability to create new ideas and forms or new arrangements of old forms; ease in establishing and power in maintaining human relationships; and skill and grace in motor manipulation and control. These abilities are neither mutually exclusive nor independent of each other, but the person of high ability does not necessarily possess them all. In rare instances, however, they are present at a high level in a single individual.

Because there are many manifest forms of human ability, no two people possess the same combination of traits. Each person creates his own design of high ability—some become skilled in dealing with human problems, some experience insights which result in new forms of musical expression or scientific investigation, some interpret man's richest experiences on the stage, some develop outstanding ability in several areas. And, regardless of the activity, each marks his performance with his own individuality. It follows that high ability has as many forms or guises as there are persons manifesting it. All these manifestations, however, while they cannot be discretely categorized, may be considered from the standpoint of relative or predominant emphases.

Manifestations of High Ability

High Intelligence. The pupil who displays facility in learning symbols and ideas does well in school, for this learning is basic to all intellectual activity, and facility in it definitely marks the student. He usually scores high on tests of mental maturity.* He is characterized by the following traits:

* Since the point beyond which a score indicates high intelligence cannot be logically determined, different school systems use different cut-off points. In spite of this divergency, after careful consideration of school population and related factors, each school system should establish a cut-off point to serve as a general guide.

1. The student absorbs and retains information readily. He is eager to know and to understand. He reads quickly and well; he asks many questions; he recognizes and reproduces symbols and ideas with facility and precision.
2. The student is alert to basic principles and relationships. He seeks meanings. He grasps even complex relationships with ease. He is superior in his ability to infer, to associate, to interpret data. He analyzes and synthesizes with power and perception.
3. The student moves with ease from the single case to the many and from the concrete to the abstract. He organizes and conceptualizes on both extensive and intensive levels.
4. The student looks critically at what he and others have experienced. He develops unusual ability to discriminate, and he manifests superior judgment in reaching decisions.
5. The student concerns himself with the more abstract and philosophic aspects of things.
6. The student, because he is quick to master information, is impatient with routine and drill, and he is apt to take short cuts in learning.

Creativity. The pupil who is able to create new ideas and forms or new arrangements of old forms has, in addition to facility in learning symbols and ideas, a desire to explore the unknown. He asks searching questions. He looks for novel solutions and creative approaches. This pupil may or may not score high on tests of mental maturity. He is characterized by the following traits:

1. The creative person is a searching person. His inner nature impels him to explore many ideas, many interests, and finally to find some outward expression of his concept of the truth.
2. The creative person exhibits fluidity in thinking. He has the ability to move readily from one idea to another, is flexible in his thinking, makes many associations easily and successfully.
3. The creative person is inventive. He has the ability to place old knowledge, old processes, and old materials into new arrangements. He combines elements in an unusual way. He is able to conceptualize, to analyze, and to place in a new synthesis the elements he has identified, thus restructuring stereotyped objects with ease and rapidity.

4. The creative person uses his intuitive powers extensively. He has the capacity for developing insights and skill in combining knowledge and imagination, thus conceiving ideas and forms which are original.
5. The creative person is concerned with maintaining his originality of expression and independence of judgment.

Leadership. The pupil who has ease in establishing and power in maintaining human relationships promises to be a leader of men. He, too, may or may not score high on tests of mental maturity for his abilities may be more of an indication of a high "social quotient" than of a high intelligence quotient. It must be repeated, however, that he may be superior in both. The following traits characterize him as a leader:

1. The leader is deeply interested in people. He finds opportunities to associate with them, and he achieves satisfaction in this association.
2. The leader is sensitive to human thought and action. He responds to the observed behavior of another person or group by recognizing the psychological and sociological implications and by relating himself actively to the constructive elements within the behavior.
3. The leader possesses predictive skill. He is able to anticipate behavior and to look ahead to the probable effects of actions which have not yet taken place.
4. The leader is able to function effectively in a variety of roles. He can and does participate in group action, and at other times he exercises leadership by molding group opinion and by initiating group action. He is outstanding in his ability to influence others.

Skilled Performance. The pupil who, among other abilities, has skill and grace in motor manipulation and control usually develops this skill and grace to an outstanding degree in one particular area. He may be a musician, an artist, or a sculptor; he may be a dancer or an athlete; he may be an actor; he may be a surgeon or an engineer. In each case, he has mastered an art which demands a high degree of both mental and physical control. He is characterized by the following traits:

1. The skilled performer is attracted to beauty of line and motion. He absorbs this beauty in his own mental and physical processes.

2. The skilled performer is well coordinated in the use of his mind and body. He establishes control over his movements and develops greater and greater skill within the medium or media of his choice.
3. The skilled performer feels his art intensely. He is impelled toward an expression of this feeling and becomes absorbed in its expression.
4. The skilled performer communicates to others. He demonstrates his mastery to all people but especially to fellow "artists" with whom he shares a sensitivity to the presence of skilled performance.
5. The skilled performer knows the value of his skill. He appreciates its worth to man and to society.

This entire spectrum of high ability must be known to the schools. Concentration on one manifestation to the neglect of the others can be dangerous. Both parents and educators must learn to recognize all manifestations, appreciate their value, and direct them into constructive channels.

3
THE PERCEPTION OF HIGH ABILITY

Outstanding performance expressed in its more mature form is readily apparent to all but the most unpracticed eye. One needs only to note the recognition and acclaim accorded the accomplished artist, the honor student, the champion athlete, or the skilled craftsman to recognize that this is a fact. Detection of such capabilities in their undeveloped condition is an altogether different matter. Who was first to suspect their presence? At what age level did they become discernible? What measures were employed to make such discernment possible? The nature of today's world makes it increasingly urgent that schools be concerned with these questions and that sound answers be found.

Basic Concepts Concerning Perception

Initially, it must be recognized that the perception of high ability is a complex process. It is complex because, in the last analysis, high ability must be perceived in many forms. The attention heretofore given to high verbal facility as revealed by scores on traditional tests of intelligence is now recognized as insufficient. Evidence is accumulating to show that the mind has many facets, only a few of which are capable of measurement by such instruments. Moreover, it has become apparent that an exclusive concern with high verbal facility may overlook the existence of high ability in other forms. The development of the latter can be as important as the former even though their means of perception may be markedly different and perhaps more complicated.

The search for high ability must begin early. Indications of the promise of such ability in certain children may present themselves quite early to the attentive observer. Such qualities as concentration, enthusiasm, inventiveness, or coordination when exhibited to an unusual degree merit close and continuing attention that their true significance may be established as early as possible. While these qualities are capable of some direction even before the ability to reason is firmly established, care must be exercised to avoid premature judgments regarding their implications. This is to be especially noted by parents. There can, however, and there should be adequate provision for learning experiences which will challenge rather than discourage the further development of these qualities.

Those who would perceive high ability must be continuously alert to emerging manifestations or to the gradual dissolution of once-promising tendencies. In certain individuals, high ability may lie dormant until adolescent or later years. Others, influenced by favorable cultural environment, may demonstrate rapid progress in their early years but gradually lose their lead and revert toward the mean during early and middle adolescence. There is reason to believe, also, that different traits may appear at different times. Signs indicative of artistic or musical ability, for example, tend to appear relatively early when compared with those reflecting ability in creative writing or social leadership.

The perception of high ability may be achieved along several avenues. Some abilities are discovered through tests, some through performance. In order to observe and interpret the exercise of these abilities, it becomes necessary to call on those closely associated with the pupil not only in the school but also in the home and in other agencies. These people can observe the pupil in varied situations, and with some instruction they can become aware of his emotional stresses, of his leadership potential, and of his interests, his special talents, and his abilities. Moreover, school systems may use State and regional facilities which have resources for evaluating the abilities of individuals. It is extremely important that information from all these sources be brought together, carefully analyzed, and recorded as a part of a cumulative and comprehensive case history of the individual.

On the basis of all the foregoing, it is clear that those who would perceive high ability must be flexible in their attitudes and in their actions. In addition to recognizing the elements of complexity, of time, of continuity, and of variety which bear on their work, yet another consideration needs to be stressed. Research is supplying new insights and understandings to the available fund of knowledge about high ability. There must be an eagerness to keep abreast of such developments and to adapt as readily as possible to those changes which are dictated by the evidence. It is only in this way that progress can be made toward the ultimate objective—development of the full potentialities of all those possessing high ability.

Means of Perceiving High Ability

In the search for the highly able, one is accustomed to thinking at first in terms of verbal facility alone. While this will be considered later in more detail, there are, in addition, certain personal manifesta-

tions of high ability that serve as important pieces of evidence. They are not observed to an equal extent in any one individual; instead, highly individualistic patterns become the rule rather than the exception. In some, high ability may manifest itself as an interest in a large number of objects and ideas; in others, it may be indicated through the tendency of the individuals to probe into the composition of things. Tenacity of concern and interest, vitality of mind and body, and comparative freedom from complexes may be characteristics displayed in others. Included among these personal manifestations, although the least reliable, is ease of memorizing.

The teacher and the counselor are key people in discovering the highly able. They have the responsibility to accumulate much personal data and to become proficient in recognizing the highly able. The teacher observes the pupil day after day; he sees him as a student and observes his intellectual superiority; he also recognizes other traits indicative of high ability. He can assess the pupil's motivational patterns and achievement drives and establish an environment conducive to a high quality of learning. In this environment, provision can be made for the opportunities, instruction, encouragement, and recognition needed by the able pupil if his special talents are to be uncovered.

The counselor, utilizing the skill of the pupil services team, can make a detailed study of the individual and note his interests, aptitudes, and abilities. To this end, he uses all available data to discover the highly able pupil; he schedules interviews to find out more about the pupil's special interests, his family background, and his future plans. He goes over the records periodically in order to follow the pupil's progress through school and to orient him to the new school situation. He is a key person in helping the pupil know and understand himself so that he may develop his ability, become increasingly self-directive, and take his place as an effective member of society.

While the teacher and counselor have great responsibility in the recognition of the highly able, parents too can give valuable assistance because of their more immediate and direct opportunities for observation of the child. They are able to observe the child from infancy and to learn to interpret his behavior in terms of growth levels. Among the traits characteristic of the highly able which parents are in a good position to recognize are an insatiable curiosity, a large vocabulary, and a variety of interests, all indicative in the early years of an advanced stage of maturity. Through conference with parents these traits can

be identified and valuable information mutually obtained and interpreted.

Perhaps no single instrument yet devised can provide data about the presence, the nature, and the degree of high ability in a given pupil more efficiently than the standardized, objective test. At the same time, this device is the target of considerable criticism, some of which may be well founded. Several considerations underlie the satisfactory resolution of this controversy. It is well that all who are concerned with the perception of high ability identify and understand these factors.

In the first place, tests of intelligence or mental maturity when properly selected and used for the purposes for which they are intended can provide a great deal of useful information. In addition to relevancy, other significant factors which influence the interpretation of scores on such tests include

1. The validity and reliability of the test
2. The age and academic level of the pupil
3. The cultural background of the pupil
4. The method of giving the test

In the second place, schools should employ personnel qualified to administer objective tests and to interpret test scores in terms of specific abilities and disabilities, in order to obtain full value from the data. In the third place, comparisons drawn on an individual pupil's record should be made only in tests of the same series, or on equated statistical ranks if different tests are used, since different intelligence tests measure different facets of intelligence. Subject to such considerations, the evidence seems to show that individual tests can provide, within the cultures for which they are established, meaningful measures of intelligence at ages five to six and that group tests are valuable for rough screening purposes by the time pupils reach the third- or fourth-grade level. For any pupil whose potential is under consideration, both individual and group tests should be used. Administration of intelligence tests at fairly systematic intervals in the school career of any given pupil can do much to supply a fairly reliable indication of his ability for intellectual performance.

Notwithstanding these values, certain limiting factors which may be operative in the general use of tests of mental maturity are also to be noted carefully:

1. They presently sample only certain of the cognitive processes.

2. They measure chiefly the ability to handle abstract, symbolic material, largely on a verbal basis.
3. They do not presently measure such important aspects of behavior potential as creativity and leadership, since these are not unitary.
4. They provide merely a sample of a pupil's ability at a given time and must be interpreted as so doing.
5. They tend to contain elements of social class or cultural bias favoring upper- and middle-class cultures.
6. They provide no direct measure of motivation.

Aptitude tests and interest inventories are being used rather widely, chiefly to provide some insights into the likelihood of success in special areas of study. Care must be taken, however, to avoid very precise interpretation of their results. At best, they serve as predictors of a general direction and can not presently account for the effects of other factors which may influence markedly the pursuit of such a course. It is recommended that they be used only in conjunction with other sources of data.

Another area of testing, that of achievement, is designed to measure how well the pupil has mastered the educational program to which he has been exposed. Such tests, when properly selected, administered, and interpreted, have enjoyed considerable success in achieving their announced objective. Their results are regarded as a prime indicator of potential success in post-high-school education. Those achievement tests which are selected should be structurally sound, their reliability and validity having been carefully established. More importantly, they should be used only as they are appropriate for measuring that achievement which the enriched school program is designed to provide and only as they can be adapted to the characteristics of pupils with high ability. Finally, the value of these tests, as of those already mentioned, is enhanced through their usage at planned intervals over a period of time.

Problem of Nonperformance

A persistent problem in the search for the highly able is the pupil who has the indicated potential for high performance but who fails to achieve. He must be included among those designated as highly able even though remedial educational efforts may be necessary before he qualifies for advanced or complex studies. He may lack self-direction because he cannot concentrate, or because he has no interest in learning, or because he spends all his intellectual energy on projects outside the school. In any case, the situation can be remedied by the resourceful teacher, often in

cooperation with the parents and the pupil services team. Either study skills must be learned, interests developed, health improved, or interesting outside projects must be incorporated in the school program. The school's first responsibility is to find ways of identifying the undermotivated and then of increasing their motivation. Various approaches should be used. Failure to stimulate these pupils to achieve at a high level constitutes a major source of human wastage. (See Chapter 4 for further consideration of this problem.)

Need for Research

Many problems relating to the perception of high ability may be resolved through the findings of further research. There is need, for example, to know more about the nature and perception of talent. Talent has been described as a complex product of native ability and development as exemplified in art or music. The complexity is increased by the fact that every individual presents a unique pattern. On the whole, talented individuals have superior intelligence. Even the score from a measurement of intelligence must be placed in its proper perspective, since it is conditioned by certain physical and emotional factors, special interests, home environment, and social adjustment. Also, the characteristics possessed by the talented in music are not identical with those possessed by the talented in another field—art, for example. Studies of individual cases are needed to acquire real understanding of the nature of the highly able.

The increasing attention being devoted to creativity focuses on a subject of great significance for all educators. Some investigators have indicated that classroom performance and standard intelligence tests call for convergent rather than divergent thinking, a condition which could imply that the educational program tends to stifle rather than foster creativity among pupils. Other findings have shown that a high correlation does not always exist between creativity and other aspects of intelligence as currently measured. While research in this field is still preliminary and should be interpreted with some caution, it is sufficient to demonstrate the need for continuing intensive investigation. There can be no denying the need for the truly creative individual in all forms of human endeavor. By what characteristics can he be revealed? By what means can his unique potentialities be developed to a productive level? Is he, perchance, the highly aggressive, nonconforming pupil whose unusual reactions and independent judgments have frequently caused the school to look on him with disfavor? The school bears the

constant obligation to keep abreast of and contribute to the progress of research. It cannot afford to do otherwise.

Another subject needing investigation is that dealing with motivation of the pupil. Although discussed later in some detail, its great importance warrents its mention in this context. Too many times we have assumed that if pupils are identified as superior they will take advantage of the opportunities available to them. Experience has shown that such assumptions are not always justified. Does the teacher fail to identify pupils of high ability because of their lack of motivation? What is it that gives a pupil the drive to move himself forward? What devices can be used to assure that he will perform to the best of his ability? Much remains to be discovered in this area also.

Thus, it becomes apparent that the perception of high ability is indeed a complex process. Present knowledge provides some guidelines for the effective operation of the process, but many questions remain to be answered. It seems clear, however, that schools should investigate what constitutes a comprehensive program of identification of pupils of high ability and should initiate such a program, utilizing all information currently available to them yet making the structure sufficiently flexible to incorporate new knowledge as it becomes available. This program may vary from school to school even though its components will almost certainly employ in all cases some form of testing and observation. The exact nature of the tests, the precise definition of what is to be observed, and the interpretations to be attached to the results of both will constitute the areas of most critical decision.

4
THE DEVELOPMENT OF HIGH ABILITY

Once high ability has been defined and perceived, it becomes the responsibility of the school to provide an educational program which is related to the characteristics of the highly able and which gives each highly able pupil an education commensurate with his ability. The goal of this education is the attainment of outstanding skill and wisdom which can emerge only after the acquisition of basic skills, common knowledge, and specialized learning. All highly able pupils should therefore learn basic skills as thoroughly and as quickly as possible. They should then master common knowledge and acquire specialized learning in depth, through all of which they should strive for high quality.

This type of education implies, among other things, expressing individuality, refining thought and communication, understanding basic principles, and thinking critically. It implies, further, achieving high personal competency in one or more areas of knowledge and performance, with the concomitant ability of self-criticism and self-evaluation becoming increasingly effective throughout the school years. It implies, finally, engaging in a life-long pursuit of wisdom and, in alternating roles of leading and following, fulfilling the responsibilities to self, to others, and to society.

These are important components of the mature expression of high ability. The school must direct its best efforts toward providing a program of education which brings pupils as close as possible to a realization of this maturity. Both research and experience have brought insights concerning the nature of this program; however, many questions remain to be resolved by further research.

Learning Experiences

The learning process in principle is the same for all pupils; however, the specific learning experiences will differ in accordance with the varying characteristics of the learners. Suggestions for the planning of learning experiences for pupils of high ability are discussed under the following six headings:

1. Self-expression is a basic and primary right which every pupil should be encouraged to seek that he may realize his own optimum development through as many media as possible. It is concerned with the pupil as a person.

The highly able pupil should explore all available media of expression. He should begin at an early age, and in this exploration he should be subjected to only that amount of guidance which is necessary within the democratic concepts of freedom and responsibility. He should direct his efforts toward mastering the basic language arts as soon as possible since even the highest potential in self-expression depends on facility, first in listening and speaking and then in reading and writing. These skills should be supplemented by other forms of self-expression; for example, singing, dancing, conversing, painting, and constructing, in all of which he should be encouraged to be inventive and exploratory. The teacher should be sensitive to the pupil's interest in original or unusual ideas or media, and he should provide opportunities for the development of originality, the manifestation of creativity, and the pursuit of special projects.

The highly able pupil should be given wide range in the use of his imagination. The teacher should early establish the idea that the imagination is a fertile source of ideas and a legitimate way of seeking truth.

2. The skills of communicating effectively should be developed along with the ability to express self. The relationship of these two is close, but learning how to present ideas and feelings to others is a valuable social experience which helps the highly able pupil improve himself and relate to his fellowmen.

The highly able pupil, as well as the less able one, needs and should receive guidance and direct instruction in learning the skills of communication. These skills reach beyond those of self-expression. They involve ability to convey thought and feeling accurately, control over the effect of one's expression on others, and use of expression for social purposes. To these ends, the highly able pupil should participate in group activities as a leader and as a follower and become skilled in critically evaluating his ability to communicate, to engage in group discussion, and to acquire and use the social skills of group membership.

For most effective communication, the highly able pupil can learn to understand and appreciate the subtleties of language and the power of words and to discriminate in the use of vocabulary. He should have wide experiences with materials in the various content fields in discovering that different vocabularies and modes

of expression are appropriate to different situations and activities. Likewise, he should learn to communicate in the language of music, mathematics, art, and movement.

3. The range of experience and interest of each pupil as well as his special abilities should be considered in planning the learning situation. The uniqueness of the learner should be recognized and brought into play through the types of educational situations which are provided.

   The learning process should be paced so as to enable each highly able pupil to move at a rate and level appropriate to him in mastering skills, in studying content, and in deepening the conceptual level at which learning takes place. The learning situation should make provision also for the capacity to move quickly from the single case to the many and from the concrete to the abstract. The highly able pupil should engage in learning activities which enable him to relate, organize, and integrate knowledge and understanding at a high level. He should pursue those special abilities and interests which are characteristic of him at each age level, that the school may be exciting in its relevance to his own development.

4. A pupil should have breadth and depth in his learning experiences. The nature and amount will vary with the level of ability.

   While research indicates that it is essential to each human being to have a constant supply of sensory stimuli, it is particularly important that the highly able pupil have access to a sensory-rich environment, since such a pupil possesses to a marked degree the capacity for discovering and pursuing a broad range of interests. A suitable environment, therefore, will include rich educational resources, including both library and laboratory facilities and encompassing varied fields of content. The highly able pupil should be encouraged to read and explore in many areas, to search more deeply as well as more extensively than in the classroom texts, and to use a variety of resource materials as aids. Newly emerging fields of knowledge will have particular pertinence for such a pupil. Breadth and depth can be further achieved by instruction that guides these pupils to discover the structure of a discipline and to understand its key concepts.

   The type of questions the teacher asks and those the highly able pupil is encouraged to ask others may contribute to depth in learning. An environment in which the more able pupil is encouraged

to inquire, to question searchingly to find possible answers to questions, is conducive to quality learning. A method of research, of analysis, or of evaluation may likewise contribute to depth. Any story can be approached on different levels. For example, a selection of literature may be approached on an adventure or factual level; on a relationship level; and on a symbolic or attitudinal level. In this way, the subtle clues in personality and plot can be sought and appreciated, and basic values can be discerned. Such perception of depth in literature should be part of the education of the highly able. Freedom to express and explore different and nonconforming ideas and respect for such individual initiative will contribute to the worth and depth of the learning situation for the highly able pupil.

The highly able pupil should have an instructional program that provides for his growing mastery of study skills in accordance with his ability: knowing where to find references, how to take notes, how to select pertinent information, how to select main ideas, how to organize material, how to interpret printed materials. Such a program should afford many functional experiences in acquiring and using these skills.

5. A pupil should increase his power of self-direction in the learning situation. This power involves setting goals for himself and finding his own best way of learning. It also calls for increased independence and self-realization in working toward such goals.

Important aspects of the teacher's role are assisting the highly able pupil in determining for himself goals that are commensurate with his ability and that help him move steadily toward greater integration and complexity, and assisting him in learning how to measure his progress toward these expectations. This does not discount the importance of ideals which may exert such a strong influence on him that his accomplishments may far exceed his expectations. The relationship between realism and idealism in this regard has not been determined.

The highly able pupil needs teacher guidance in discovering his own best way of learning and in developing that method or combination of methods of learning which is most effective for him and which aids him in becoming independent and self-directive as a learner. Research findings show that people have various ways of learning and thinking. Some learn through visual imagery, some

through abstractions and generalizations, others through a combination of methods. In setting up plans for study, the individuality of a pupil's mode of learning should be respected. His initiative, perseverance, and self-realization may be developed by giving him responsibility for planning projects, identifying problems which retard progress, suggesting materials and methods to be used, and evaluating progress made toward achieving goals.

The school must provide the kind of environment in which the highly able pupil is free to make choices and to express initiative. He should also have experiences in decision-making which give him practice in locating and evaluating data and exercising judgment in coming to conclusions and deciding on courses of action.

6. The school should promote the development of a positive self-concept on the part of the learner, since the findings of research indicate that an individual performs in accordance with his concept of himself. This self-concept is shaped in part by the opinions and expectations he feels others have of him and by his relation to other persons. If he sees himself as one who can learn and who is learning, he is apt to achieve more nearly in accordance with his ability than would be true if he saw himself as a slow or inadequate learner.

   In order to avoid waste of high ability, it is important that a highly able pupil have experiences through which he may learn to appraise himself realistically as an effective learner. A highly able pupil should be helped to recognize his unique or special abilities and to accept his responsibility for developing these abilities at successively higher levels of effectiveness. Such experiences should lead to a conscious expectation of himself for learning at a high level and for giving service to the group in ways that are appropriate to him but not expected of some other members of the group. Such a pupil should also learn that he will receive services from other members of the group and will see himself as one who is a follower as well as a leader.

   The teacher must be very careful of the ways in which he reflects to pupils his appraisal of their performance as learners. He must use means that will build positive self-concepts.

The Role of the Teacher

The ability and enthusiasm of teachers determine, in large part, the measure of success realized in any educational program. Innumerable lists of recommended characteristics are available for teachers of the highly able, but it is difficult to discover or to devise one that is not equally appropriate for all teachers. Of foremost importance is the attitude of the person who is given this challenging responsibility. He must believe in these able individuals, he must accept and not resent their high degree of intellectual ability, and he must be alert and sensitive to their needs. In order to be stimulating to the very capable, he ought to be intellectually curious himself, with rich stores of knowledge, broad understanding, and versatility of interests. Underlying a teacher's facility for working with the highly able is his understanding of the psychology of the highly able and their special learning problems. Basic to this understanding is a recognition of the importance of individual differences and of the resultant need for individualizing instruction and encouraging each pupil to develop his own individuality.

With any pupil, teachers must be able

1. To consider the pupil's intellectual capacity in relation to the degree of social, emotional, and physical maturity that is in evidence
2. To recognize the social and emotional problems which his rate of mental development creates
3. To ascertain what things seem significant as well as those that seem unimportant to him
4. To gauge the goals, drives, and incentives that he already possesses
5. To determine what value system serves as a motivating factor for him and provide opportunity for examining and testing values to enable him to build a consistent system of high values
6. To know the extent to which he seems valued by parents and others
7. To discover and fill in any gaps which exist, in order to develop a well-balanced program of study
8. To probe interests in order to guide as well as to provide appropriate materials to aid in pursuing these interests
9. To maintain a constant awareness of the dynamics that operate within the group in order to help him move into roles that are most in keeping with his interests and aptitudes

10. To adjust in teaching plans and techniques in response to spontaneous learning situations that develop in the classroom

All such general concerns of the teacher should be constantly weighed against the distinguishing characteristics of highly able pupils as diversely manifested. In addition to these general qualities, effective teaching of the highly able should provide

1. Opportunities for pupils to explore the world of ideas, and acceptance by the teacher of this unstructured approach to learning
2. Opportunities and encouragement for pupils to express themselves creatively and to explore areas for original expression
3. Rich environments to stimulate independent efforts in science, art, music, languages, and other fields wherein special abilities are evidenced
4. Emphasis on the mastery of fundamental skills and knowledge basic to the pursuit of advanced, specialized endeavor
5. High standards of achievement and encouragement for these pupils to probe deeply in learning
6. Emphasis on meanings and relationships in building concepts
7. Emphasis on investigation as a valuable means of acquiring knowledge
8. Emphasis on developing an understanding of problem solving and experimentation
9. Opportunities for keeping alive the inquiring motive
10. Motivation for developing the ability to think creatively, critically, reflectively, and objectively
11. Encouragement for these pupils to assume responsibility in relation to their ability as effective members of society
12. The kinds of challenge that will force these pupils to look beyond their own internal resources however rich these may be
13. Opportunities for these pupils to relate with all people and to recognize the worth of others

The Role of the Principal

A program of significance for the highly able can be established only with the active support and encouragement of the principal. It is the principal who, in cooperation with the entire school staff, must take the lead in the formation of a school policy and who, likewise, must give direction to the implementation of this policy within the framework of

the school philosophy and the existing school program. His role is a complex one, demanding that he be well informed concerning existing programs and research; that he be aware of current issues; and, further, that he insure a flow of ideas to stimulate the faculty to study, use, and evaluate recommended practices.

The principal has a number of specific administrative responsibilities in establishing a program for the highly able. These responsibilities may be shared with a committee of teachers or with a program coordinator. One of the primary considerations should be planning and supervising a program of identification and follow-up of identification to insure that those who can profit from such a program are included. Beyond the identification process is the important task of programming, which includes establishing definite administrative provisions, determining the scope of the curriculum, and scheduling with enough flexibility to meet the needs of the individual pupil. Adequate classroom facilities and materials must be procured, and the principal should endeavor to identify the needs for specialized materials and equipment in order to promote optimum classroom enrichment.

One of the more important responsibilities that the principal has in this program is the selection of teachers who have the ability and interest to work with very capable pupils. He must recognize the need for helping these teachers do their best, and hence he should explore the means by which their continuing in-service education may be carried out most effectively. At the same time he must be prepared to help each teacher find his own unique way of teaching highly able pupils.

Not only does the principal serve to coordinate the efforts of his own staff so that the program may be continuous, but he must also plan with other administrators to effect articulation among the various grade levels in order to foster the complete success of the program.

A further challenge for the principal is found in the task of encouraging positive community attitudes toward academic pursuits and educational values. The basis for accomplishing this is found in the emphasis that the school itself places on learning and the value that it holds for scholastic achievement. If learning and scholastic achievement are properly conceived, the school is obligated not only to foster their influences within the institution itself but also to promote their understanding and acceptance throughout the community. Unless this effort is made effectively and continuously, the administrator may find that he has advanced too far ahead of those on whom must depend the successful implementation

of new and improved practices. A total cooperative effort is needed to sustain the school in dealing with the problem of upgrading intelligence.

The principal's functions in building a successful program will vary from school to school. To strive for flexibility and ingenuity in establishing such a program is a far wiser course of action than to follow rigidly a list of standard procedures.

Program Provisions

Once a philosophic base is accepted for the education of highly able pupils, the administrator is called on to make provisions for a program of studies and activities that is sequential, appropriate, flexible, and paced to suit the variability that still persists within such a group of pupils.

The administrative provisions that he may use include (1) enrichment, (2) acceleration, and (3) grouping. These administrative devices for programing are not mutually exclusive. It is unlikely that adequate enrichment can be accomplished without acceleration of the learning process or that the fullest utilization of the possibilities in both of these will not frequently lead to the use of varied and flexible groupings of students. It is doubtful, moreover, that significant outcomes will be observable in a program based on any one of these provisions alone.

Enrichment is generally thought of as a way of providing for more able pupils in regular classrooms. Instruction can be enriched in specially grouped sections of a grade and in special or specialized schools through individual scheduling of pupil programs after careful guidance, and through flexible arrangements for challenging opportunities. Regardless of the organizational device that is used, enrichment opportunities should provide for the development of those characteristics which highly able pupils possess to a greater degree than do other pupils.

Enrichment should make possible exploration of any subject in depth and breadth. For example, a depth study might be made of a particular aspect of American history wherein the pupil utilizes original sources, makes analyses of the influences of social, political, and economic factors on events in history, and experiences intensively the methods used by social scientists in solving problems. Depth activities would be in addition to the usual survey of events common to most history courses. In addition to a study in depth, this survey could be enriched in breadth through the use of richer and more mature materials as texts and references and through intellectualizing the experience with opportunities to compare and contrast historical events with contemporary happenings, to evaluate critically, to generalize, and otherwise to foster the development of su-

perior qualities of mind. Enrichment should never take the form of adding more of the same materials, activities, and assignments given to other pupils. Enrichment as described here provides for an extended development of the concepts and content of the basic syllabus for a course.

In an enrichment program the course of study may be organized around more mature concepts than are used with less able pupils. This may be done for more able pupils in special sections. Such a course may be thought of as an offering normally taken in the secondary school that has been enriched by reorganization at a more mature level. Advanced courses are identified as those generally pursued at the college level but offered at the upper secondary school level for selected pupils. There are elements of greatly enriched experience in these advanced offerings even though they are more frequently referred to when considering types of acceleration.

Acceleration is described as any procedure which allows a pupil to progress more rapidly and thus to complete a school subject or program in less time than the average pupil. Acceleration implies that the pupils will master essential sequential skills in school subjects more quickly and sooner than other pupils. Likewise in an accelerated program the pupil will learn concepts about and gain an understanding of the content subjects before other pupils of his age.

Accelerated programs may provide for earlier admission to the instructional program and more rapid progress through the normal educational sequence. Examples of early admission programs that are being tested include the enrollment of very able children in the first grade before other children are eligible to enroll and the placement of able children with rich experiential backgrounds in the second grade when they reach the age to attend school. At the other end of the continuum some colleges dispense with secondary school diploma requirements and admit selected students of exceptional ability, achievement, and maturity prior to completion of high school. In providing for more rapid progress, school practices include the nongraded primary school, where pupils may complete the primary curriculum with more flexibility and in less time than is normally taken, and an intermediate grade program that accelerates the skill and content areas. This makes possible earlier admission to enriched and accelerated junior high school programs.

Another practice allows selected pupils to take at the eighth- and ninth-grade level courses often taught in senior high school. On entering

senior high school, the pupil is able then to meet earlier the requirements for graduation and to take in the twelfth grade some college level courses. On passing the appropriate examinations, the pupil may be excused from these courses in college and earn advanced standing. Practices such as these imply the development of a specially organized curriculum which provides through its scope and content for the enrichment and more rapid pacing of the pupil's educational program. The curriculum must be sufficiently rich and flexible to enable the pupils to meet specific college entrance or other requirements and to elect courses appropriate to their individual objectives.

School programs in some parts of the country allow pupils at both the junior and senior high school levels to take additional courses for credit during the school year, to take summer school courses for credit, and to present toward graduation one credit earned through a correspondence course. Likewise, in some parts of the country, pupils are permitted to take examinations for credit in courses that were self-taught or were taken on television.

The idea of skipping grades, which implies a gap in the learning process, is not defensible as a general practice in an organized program for sequential development of skills and understandings at a pace consistent with pupil ability. Limited acceleration may be permitted if sequential learning and wholesome pupil adjustment are assured.

Grouping is an administrative framework in which the program of education may operate. In and of itself it accomplishes nothing; it must be followed by an instructional program that takes advantage of the situation provided.

Grouping practices are based on two major points of view. One point of view seeks to effect a narrower range of individual differences by bringing together pupils of similar ability and achievement. Special schools with programs designed exclusively to meet the wide variety of needs and interests of highly able pupils exist in some densely populated metropolitan areas throughout the country. Specialized schools such as high schools of science and dramatic arts have been developed in areas of highly concentrated population. In regular schools, pupils may be grouped for enriched and accelerated instruction and for advanced classes. At the elementary school level, pupils may be with the regular class for part of the day and join a group of highly able pupils for special instruction for the remainder of the session. Other such grouping devices, found usually on the secondary school level, are seminars, science workshops, and clubs

sometimes sponsored by the schools alone and at other times co-sponsored with civic and industrial organizations.

A second point of view, likewise prevalent throughout the United States, places pupils with a wider range of intellectual and achievement levels together, relying on grouping within the classroom to provide for individual differences. This type of grouping is often employed when conditions such as the following prevail:

1. The school and community population is characterized by relatively little diversity.
2. The teachers understand the nature and needs of the highly able and are skilled in dealing with individual differences.
3. The classes are of a size that will permit each pupil to be known and guided as an individual and have challenging experiences to meet his educational needs.

There is evidence to show that trait variability increases with maturity; therefore, in the secondary schools grouping is increasingly more on the basis of ability, interests, and special aptitudes involved in the various courses.

Research has furnished no evidence that one plan of grouping is superior to another; in fact, studies show that a form of grouping in and of itself makes no significant difference in the achievement of pupils in the basic skills or general content. Two conclusions are warranted from experience, however:

1. Some grouping is necessary if the teacher is to work with pupils in small group relations.
2. The effectiveness of grouping depends on the richness of the opportunities that are provided and on the degree to which the syllabus, the techniques, the instructional materials, and the expectations are geared to the pupils in the groups.

No one plan of grouping will meet the needs of all pupils or fit every school and community situation. Many forms of grouping may be needed to challenge the highly able to develop interests, seek knowledge, and gain understandings in a manner and at a pace commensurate with their abilities and potentialities, and to foster proper development as members of a group. Each local school system must show flexibility in developing a plan which is consistent with basic educational policies and which likewise meets the needs of its own situation. And within this situation each teacher must exercise leadership in grouping and regrouping his pupils.

Regardless of the plan, or the combination of plans, used in educating highly able pupils, the teacher should never lose sight of the fact that he is dealing with individuals. Whether the bright pupil is placed in a special school or a special class, or is one of a mixed group, whether his program is enriched or accelerated, his welfare as an individual is the first and foremost consideration. What happens to him intellectually, physically, emotionally is far more important than any pattern of organization the school devises for his development.

The school must provide appropriate educational resources to assure the success of educational programs for the highly able. Second only in importance to teachers are the materials with which the highly able are instructed. These materials—whether in the library or in the laboratory or in the classroom—must have an upward range high enough to reach the level of the pupils' abilities and fine enough to extend their learning in depth and breadth. Likewise the school must have a program of pupil services with personnel and facilities able and willing to give these pupils the support they need. Among these resources, the library and pupil services are of primary importance.

The Library

The school library constitutes an indispensable resource for the effective education of the highly able pupil. It is here that he can add substantially to his store of information, stimulate his own imaginative and creative abilities through contacts with the world of ideas, pursue his own special interests, and gain experience in independent study. Here he can search out and analyze both facts and ideas, integrate them with his own thinking, and systematically organize the whole as a solution to a problem of importance to him.

The scope of the library's collection should provide the highly able pupil access to man's knowledge and wisdom as recorded in print, picture, and sound. Its range should be from easy to difficult, from factual to imaginative, and its materials should present both sides of controversial issues. It should make available to pupils those materials, no matter what the level, which encourage them in their search for understanding. The library, in its provision for contact with many media at many levels, will afford the highly able pupil opportunities for self-expression in exploring the new and in either reinforcing or refuting the old. It thus becomes a treasure house of immeasurable worth in individual development.

Highly able pupils should be able to use the library under liberalized conditions for independent study and research. The librarian, as well

as the classroom teacher, has responsibility for providing graded materials and for helping these pupils develop the skills of fact-finding and research, and of discriminating between the true and the false, the factual and the imaginative. As these skills are developed, the highly able pupil may proceed independently toward greater simplification or greater complexity in analyzing relationships or possibly toward creative combinations arising from his own ideas.

Because the materials in the library collection are carefully selected, the pupil in his reading, listening, and looking is introduced to quality in all forms of communication. He can discover for himself that not only are different vocabularies and modes of expression appropriate to different situations and activities but that different means of communication may be more effective for different purposes. He can discover also that he has the responsibility of selection and that his selection may influence not only his understandings but also those of other people.

In the library the highly able pupil should have opportunities to pursue his own interests, explore new ones, and work at his own speed. Since his interests are not static, he will constantly find materials new to him which may challenge him to new or greater effort. The finer the collection of materials, the greater the challenge since he may pursue one area intensively to great advantage, work for knowledge in related areas on a broad scale, or merely sample information in another area. He can learn in this way only if appropriate materials are available.

The school library should provide an environment in which the highly able pupil is free to make choices and to develop initiative. He should have free access to all its materials; he may borrow them for class or personal use; he may delve into them or simply browse through them; nothing is labeled too difficult or too easy. The skilled librarian will suggest materials but will not dictate selection. Thus, if properly guided, the highly able pupil will fashion his own method of searching and analyzing, readily assume responsibility for the decisions he makes in the process, and gradually gain the power of self-direction in the learning situation.

Through such devices as story hours in the elementary school or book talks in high school the librarian may introduce the highly able pupil to books which will help him understand people in general and himself in particular. Through this procedure and later through independent reading, he becomes sensitive to the existence of tolerance, understanding, humor, individual responsibility, and their opposites. He learns the role

of culture in relation to human development. His contacts with books, films, and other library materials can help shape within him a favorable self-concept.

All their lives the highly able pupils should be seekers of knowledge. In their school libraries they learn the basic rules and techniques for using libraries and for locating materials. They learn, too, of the extent and scope of recorded knowledge and of its easy availability. The school has a serious responsibility to provide this group of pupils with an early familiarity with an important lifetime source of knowledge and wisdom.

While it is obvious that the teacher must bear a responsibility for providing the able learner with stimulus and direction in developing an initial acquaintance with the library as a resource center, it is the librarian who truly holds the key to both the quality and endurance of the relationship. This person not only should be skilled in the technical details of library organization but also should have the ability to communicate with, assist, encourage, and otherwise convey to the pupil a healthy respect for the library which has both immediate and lasting values for him. This properly implies that the librarian should understand both the pupil and the program which the school provides for him. It implies further that any scheduled use of the library should be flexible enough to encourage individual study by the highly able.

The detailed manner employed by schools in creating the environment described above will not follow a uniform pattern. The characteristics of staff and student personnel, of facilities, and of organization will create differences which may be not only understandable but quite desirable. The important point is that service of high quality should be available.

Pupil Services

Special attention to the guidance and counseling of highly able pupils should be given within the framework of a strong program of pupil services for the entire school population. These services should be an integral part of the total educational program, for the optimum development of the highly able pupil, as of all pupils, from the earliest grades through adolescence and adulthood results from a carefully coordinated school program beginning with kindergarten and continuing in the elementary, secondary, and post-high-school years.

The guidance function for the highly able pupil in the kindergarten and elementary school is distinctive in that it initiates certain aspects of the service which then operate throughout the school life of the pupil.

Moreover, at these levels the teacher carries a large share of the guidance function, although at times he requires the assistance of others who have specialized knowledge and understanding. Among these are the psychologist, the nurse, and the pupil personnel worker or school social worker, as well as the elementary school counselor who functions as a member of the pupil services team.

The distinctive element in the junior and senior high schools is a more systematic, planned guidance program carried out by all members of the school staff in order to meet the needs of highly able pupils. At these levels, an adequate program of guidance for the highly able pupil includes effective counseling service provided by well-qualified counselors working closely with teachers and parents. At each level, one person—usually either the counselor or teacher—will coordinate the counseling resources within the school for the highly able pupil and will use the services of other members of the team as they are required. He will also share with others what he has learned from individual pupils concerning the needs of the highly able.

Guidance is a developmental function which strives to have each highly able pupil known as an individual whose needs are met by appropriate school experience. The guidance program contributes to his optimum growth by providing for the following services:

1. Careful study of the pupil including sound identification procedures for perceiving high ability; a continuing testing program of general ability and achievement which gives such objective data as the mental maturity level, the capacity score, and academic achievement; preparation and use of a developmental history for each pupil, including pertinent information concerning the highly able pupil's level of ability, his interests, his pattern of attendance, his health, his academic achievement, his test records, and his special activities; and consultation and work with parents in a close, continuing relationship
2. Individual and group counseling which are directed to developing self-understanding and self-direction on the part of each highly able pupil and which should help him understand his present abilities and limitations and become aware of his potential capacity; develop a positive view of himself; seek high goals; achieve in terms of a standard of excellence commensurate with his abilities; use in full measure the opportunities offered by his educational program, including curricular and extracurricular activities

3. Special study and counseling, especially for those highly able pupils who are not achieving in terms of their abilities, are not planning to continue their educational programs, are members of culturally and economically deprived groups who have no family expectancy of further education, have serious problems of adjustment, have special abilities over and beyond other members of their groups, pursue with intensity a very broad range of interests
4. The coordinated team approach in working with highly able pupils to focus the resources of the school and the community on their needs
5. Counselor consultation with parents and teachers to attain a better understanding of the expectations of parents and to share knowledge of the pupil as an aid to more intelligent and realistic planning
6. Effective articulation and orientation procedures to facilitate all transitions in educational experience with particular emphasis on post-high-school programs and placement
7. Follow-up studies and evaluative research to determine factors which nourish growth and achievement in terms of high individual potential and interpretation of these data to administrative and teaching staff for use in curriculum planning
8. Continual research and evaluation of the effectiveness of the guidance function in meeting the needs of highly able pupils

Motivation

Significant achievement depends on more than native ability. Teachers have long been familiar with the able pupil who lacks the drive to achieve as well as with his counterpart, the able pupil who possesses strong drive to achieve. This drive may be defined as that quality which directs an individual to a goal and makes him aware of the importance of day-to-day performance in reaching his goal. The specific forces, motives, or drives which arouse within an individual a desire to learn are the result of all the experiences of the individual. In addition to intelligence, therefore, certain nonintellectual factors have been found to be relevant; these factors touch on the whole fabric of life and extend from the total national scene to the individual family and child.

Commitment to learning, as it becomes a part of the way of life in the United States, will be a strong factor in motivating pupils to achieve at a high level. Schools cannot undertake this task alone. Other forces are needed to enhance the value of learning in society, and these forces

must spring from community action. Communities need to promote and assist learning among all their citizens, if they are to aid and support the efforts of the school in raising the ceiling for all kinds of achievement. Efforts on the part of society to increase the motivation of pupils to achieve include provision of scholarships, improvement of the curriculum, and identification of the highly able pupils. These provisions should be strengthened, however, and other avenues should be explored for, in addition to such efforts, society must begin to value learning for its own sake. Our nation will become a learning nation when we become a nation that honors learners.

In this shared responsibility for motivating pupils, the teachers within the schools must play a central role. They must be models of intellectual vigor to their pupils. The value they place on learning, which is reflected in the way they mold their lives with respect to learning, offers a real opportunity for pupils to identify with intellectuality. In addition, teachers have an important role in guiding highly able pupils toward a pursuit of high scholastic goals and away from an acceptance of the possibly conflicting aims and values of their peer groups. Teachers must so teach that each pupil develops an interest in what he is learning and acquires appropriate values and attitudes about intellectual activity that will help him make the proper decision, in case his social peers intrude on these goals at any time.

The values placed on significant achievement by society, by the community, and by the school and school personnel, all give strength to the achievement drive, but the earliest nurture of the drive to achieve takes place in the family. Research studies suggest that home environment plays a large part in forming the personality and in motivating the highly able pupil. The drive to learn is influenced and encouraged by culturally rich and stimulating homes. The favorable attitude toward learning and the attitudes which stimulate the development of independence, self-reliance, self-confidence, and a desire to excel have their beginnings within the family structure.

Foremost among the extrinsic factors which influence motivation to learn is the positive value placed on significant achievement by persons within the nation, community, school, and home who are important in the learner's life. Such positive value finds expression in appropriate recognition of significant learning by society as a whole, regard in the community for academic and other forms of excellence, attitudes in the home environment conducive to learning, intellectually vigorous and

sensitive teachers, and educational programs appropriate to the development of high ability.

The school must continuously be cognizant of and work with these external forces which arouse a desire for all types of excellence. In addition, schools themselves must develop with their highly able pupils constructive attitudes and values concerning the learning process. School experiences—both in what is taught and in how it is taught—can and must deepen and broaden interest in learning by helping each pupil accept and internalize such positive intrinsic motivating forces as

1. Identifying and accepting purposes and goals in the learning process
   a. Setting goals which are realistic and forward-moving
   b. Working with content which is intellectually stimulating
2. Keeping alive the spirit of curiosity
   a. Engaging in independent reading, research, and experimentation
   b. Finding opportunities for initiating and creating
   c. Pursuing ideas to tested conclusions
   d. Pursuing an interest in a field of knowledge
   e. Receiving encouragement for independent thinking
3. Experiencing the ongoing process of learning
   a. Moving ahead at his own pace
   b. Recognizing that exploration into new areas may not be invariably successful
   c. Working with materials and processes new to him
   d. Discovering the relatedness of ideas
   e. Recognizing his continuing ability to extend the boundaries of his understanding
4. Absorbing the commitment to learning in the total environment
   a. Identifying with inspiring and scholarly adults
   b. Interacting with peers in areas of identified interest
   c. Taking advantage of opportunities in the total culture to further learning
5. Experiencing success in realizing goals
   a. Receiving encouragement and praise for achievement
   b. Using failure as an aid to effective learning
6. Evaluating growth
   a. Recognizing high expectations
   b. Analyzing ability—weaknesses as well as strengths
   c. Weighing critically choices and decisions

7. Developing a positive self-concept
   a. Thinking of himself as a capable and a worthy member of society
   b. Analyzing his behavior relative to success or failure
   c. Feeling confident in his ability to succeed

While it seems mandatory that the intellectual tone of our society influence the pursuit of excellence, it must nevertheless be recognized that one of the most difficult tasks which schools face is that of providing adequately for all levels of learning ability. Schools must make certain that while challenging and motivating highly able pupils they are also promoting an atmosphere of encouragement and stimulation for the less able. School curricula must be so planned that all pupils, not only the highly able, are led to the achievement of excellence.

Evaluation

An educational program can be evaluated only in reference to its objectives. In evaluating the development of high ability, therefore, the objectives of learning at a high level must be clearly stated and then defined in terms of the actual performance, both overt and otherwise, which is expected of individual pupils. Teachers and administrators must know what constitutes learning of high quality in terms of this performance, and they must be able to recognize individual variations within it. In addition, appropriate means of evaluating the extent of its attainment must be used. The means may be objective or subjective, or a combination; in any case, only selected and highly qualified personnel should pass judgment on the progress of the highly able toward outstanding achievement.

At some time or other, every aspect of the educational program—the personnel, curriculum, methods, administration, and resources—should be evaluated but always in the light of the individual pupil, whose achievement is the real test of the success of the program.

5
RESPONSIBILITY OF THE MARYLAND PUBLIC SCHOOLS

The Maryland public school system, because of its primary responsibility to educate "all the children of all the people," is committed to a differentiated education in order that each pupil may experience growth and development toward the intellectual maturity of which he is capable. This commitment evolved gradually over the past three to four decades as the school population came to embrace all children and as public education achieved insights into the nature of human learning.

The following statements contain some of the basic beliefs which undergird a differentiated educational program and which show the reason for giving consideration to the highly able:

1. Each pupil is worthy of study and diagnosis in order that he and the school may understand his level of mental ability, his pattern of personality growth, and his potential for further development.
2. Instruction is most effective when adjusted in content and method to care for individual differences and when carefully tested to challenge each pupil to perform at his best. Recognition of the principle of individual differences has revolutionized educational theory and practice and promises to continue opening broad and deep avenues of learning to pupils of high ability.
3. Pupils at the extremes of the ability continuum, just as other pupils, require educational plans consistent with both their needs and the particularized contributions they are prepared to offer to society.
4. The greater the abilities of the pupils, the greater usually are their potentialities in the way of initiative, insight, originality, performance, and self-evaluation. Commitment to the full development of the rational and intuitive powers of able pupils is a basic tenet of democracy, since only as the school gives to each in accordance with his capacity does it provide equality of educational opportunity.
5. The primary task for highly able pupils is gaining knowledge which will increase understanding and lead to wisdom.

From these beliefs emerge eight distinct responsibilities which the schools must assume if highly able pupils are to realize their birthright in this democracy. The Maryland public schools must

1. Educate the public to the value of learning by giving appropriate recognition to significant learning and by representing to society, in as many ways as possible, the importance of intellectual achievements
2. Develop leaders in education who exemplify to young and old alike the wisdom which comes from well-developed minds
3. Secure teachers who are grounded in knowledge, alive to learning, skilled in methodology, expert in guidance, and disposed to novelty
4. Provide programs which, while adequately financed and culturally rooted, are likewise oriented to the creative, the challenging, the controversial
5. Evaluate programs in the light of their objectives, with emphasis on the progress of the individual pupil
6. Conduct research on such matters as will increase understanding of what high ability is and how the highly able learn
7. Employ only those procedures consistent with democratic principles in the organization of the school, in the evaluation of ideas, and in the process of teaching in order to add strength to democracy as a way of life
8. Foster in the highly able, insofar as is possible, the development of those personal traits which lead them to internalize discipline and motivation, respect both knowledge and imagination, and seek both society and solitude—to the end that the highly able may function well as individuals and as members of society

In meeting these responsibilities, the Maryland State Department of Education has a specific leadership role. The Department should

1. Establish goals and develop a policy with respect to the value of high ability and the education of the highly able
2. Supply information for professional and lay persons concerning the nature of high ability as well as the reasons for perceiving and developing it
3. Help local school systems devise appropriate plans for identifying highly able pupils
4. Assist local school systems in examining present curricular provisions and in recognizing any deficiencies or inadequacies in these provisions
5. Assist local school systems in developing materials of instruction

and in using educational resources appropriate to the education of the highly able

6. Encourage and assist local school systems in conducting sound experiments in educating the highly able
7. Provide consultants to assist local school systems in the choice and use of evaluative instruments and in the interpretation of the results of the evaluation of learning
8. Provide adequate financial assistance to local school systems

These understandings and commitments are not new to the Maryland public schools; they have always been a part of their responsibilities. The Maryland Constitution contains a Declaration of Rights which asks for encouragement of "the diffusion of knowledge and virtue, the extension of a judicious system of general education, the promotion of literature, the arts, sciences, agriculture, commerce and manufactures, and the general melioration of the condition of the People." Each generation has interpreted this charge in accordance with the imperatives of its day. This generation sees an urgency to re-examine the moral responsibility which is inherent in the democratic principles on which the United States is founded and to redouble its efforts to educate every pupil to the extent of his ability. Leaders in education must, therefore, renew their commitments to this Declaration of Rights and to the basic tenets of democracy from which the Declaration springs. They must increase their professional competency with respect to the education of all pupils. They must respect high ability and, through these eight-point programs, lead highly able pupils to optimum development and participation in the life of the world.

6
GUIDELINES FOR ACTION

Each local school system has the responsibility to organize, administer, and supervise programs for its highly able pupils. A policy statement such as that contained in this report lays the foundation for and gives general direction to these programs. It is only the first step, however. Implementation of the policy involves additional decisions leading to the organization of a definite program for educating highly able pupils in the local school system.

It is suggested that the local board of education and the entire professional staff make a thorough study of the report and other current literature on the subject. It is suggested further that the superintendent appoint a steering committee composed of persons representing supervision, instruction, curriculum, psychology, and guidance; persons who recognize the need for developing an appropriate program of education for youth of high ability. Members of the steering committee should visit school systems both within and outside the State to observe promising practices in this area. They should have the opportunity to meet with outstanding consultants working on research and experimental procedures related to the problem. They should conduct a study of the nature of the pupil population from the standpoint of high ability. They should take an inventory in their own schools of present practices with respect to educating those who are most able, indicating school by school the nature of the group of pupils who are included and the type of program which is being carried on. These practices should be evaluated in the light of the findings of research and experimental practices. An inventory and evaluation of this kind would indicate what changes, if any, should be made in the local programs of education in order to meet the needs of this group of pupils.

Every worthwhile educational enterprise requires direction and coordination. The superintendent should designate someone from the central staff as coordinator of the program for the highly able. This coordination will be further assured by assigning a similar responsibility to someone in each school to provide the essential liaison between the school and the central staff and to render direction and assistance to teachers as needed. The State allocation for supervisory service is adequate to provide State financial assistance for the employment of such supervisory personnel.

This is an advantage that probably no other state in the Union possesses. It should give great impetus to the program.

This type of organization will enable each school system to formulate a comprehensive plan for identifying those pupils who are well above average. The plan should designate instruments of measurement that encompass all the distinguishing characteristics which are to be considered. These would include decisions which the system itself makes concerning the score designated as the cut-off point on tests of mental maturity, stated levels of achievement, the use of tests of interest and aptitudes, and some measure of high ability in the areas of creativity, leadership, and motor performance. Each school system should have some method of considering all these factors in their totality for an individual pupil. It should provide also the means of detecting the underachiever. It is vitally important that qualified personnel be available to administer the measuring instruments and to interpret the results.

So far as organization and instruction are concerned, several patterns and programs are possible, as the report indicates. Each school system should, in light of its basic beliefs and understanding concerning the education of the highly able, develop a program of instruction that is appropriate to the education of its pupils. Within this framework individual schools should make specific provisions for the education of highly able pupils. These programs will undoubtedly vary from school to school within a given school system. Regardless of this variation, however, each school should provide those educational resources which are necessary to enrich learning and those guidance services which assist pupils in understanding themselves and their potentialities. Moreover, appropriate measures should be devised to evaluate the progress of pupils.

The State Department of Education will assist local school systems in interpreting the report and in recommending specific steps for its implementation. Within the Department a staff member will be designated to coordinate programs throughout the State and to facilitate communication with and between local school systems. Likewise the Department staff will cooperate with local school systems in coordinating or directing the necessary in-service education of teachers. Workshops and conferences at local, regional, and State levels may be arranged and consultant service will be provided. The Department will also encourage and cooperate with local school systems in conducting developmental research to judge the value of varying types of educational programs for the highly able.

Some school systems have already taken action consistent with the recommendations of this report, and others are about to do so. At whatever stage of development a school system may be, the State Department staff or members of the Committee will be available as consultants to give assistance to local school systems and local committees in their efforts toward initiating or improving programs for the highly able. It is the hope of the Committee that the policies and suggestions contained herein may be translated promptly into appropriate programs of teaching and learning for the highly able pupils in the Maryland public schools.

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